

1 GAATTCGGCACGAGGTTTTTTTTTTTTTTTTTCCCCTCTTTCTTTCTTTCTTTTGCC 60
-----+-----+-----+-----+-----+-----+-----+-----+
61 ATCCGAAAGAGCTGTCAGCCGCCGCCGGGCTGCACCTAAAGGCGTCGGTAGGGGATAAC 120
-----+-----+-----+-----+-----+-----+-----+-----+
121 AGTCAGAGACCTCCTGAAAGCAGGAGACGGGACGGTACCCCTCCGGCTCTGCGGGGCGG 180
-----+-----+-----+-----+-----+-----+-----+-----+
181 CTGCGGCCCTCCGTTCTTTCCCCCTCCCCGAGAGACACTCTTCCTTTCCCCCACGAAG 240
-----+-----+-----+-----+-----+-----+-----+-----+
241 ACACAGGGGCAGGAACGCGAGCGCTGCCCTCCGCCATGGGAGGCCGCTTCCTGCTGACG 300
-----+-----+-----+-----+-----+-----+-----+-----+
301 CTCGCCCTCCTCTCGGCGCTGCTGTGCCGCTGCCAGGTTGACGGCTCCGGGGTGTTTCGAG 360
-----+-----+-----+-----+-----+-----+-----+-----+
361 CTGAAGCTGCAGGAGTTTGTCAACAAGAAGGGGCTGCTCAGCAACCGCAACTGCTGCCGG 420
-----+-----+-----+-----+-----+-----+-----+-----+
421 GGGGGCGGCCCGGAGGCGCCGGGCAGCAGCAGTGCGACTGCAAGACCTTCTTCGCGTC 480
-----+-----+-----+-----+-----+-----+-----+-----+
481 TGCCTGAAGCACTACCAGGCCAGCGTCTCCCCGAGCCGCCCTGCACCTACGGCAGCGCC 540
-----+-----+-----+-----+-----+-----+-----+-----+
541 ATACCCCCGTCTCGGCGCCAACCTCCTTCAGCGTCCCCGACGGCGGGCGGCGCCGAC 600
-----+-----+-----+-----+-----+-----+-----+-----+
601 CCCGCCTTCAGCAACCCCATCCGCTTCCCCTTCGGCTTCACCTGGCCCGGCACCTTCTCG 660
-----+-----+-----+-----+-----+-----+-----+-----+
661 CTCATCATCGAGGCTCTGCACACCGACTCCCCGACGACCTACCCACAGAAAACCCGAG 720
-----+-----+-----+-----+-----+-----+-----+-----+
721 CGCCTCATCAGCCGCTGGCCACCCAGAGGCACCTGGCGGTGGGCGAGGAGTGGTCCCAG 780
-----+-----+-----+-----+-----+-----+-----+-----+
781 GACCTGCACAGCAGCGGCCGCACCGACCTCAAGTACTCCTATCGCTTTGTGTGTGATGAG 840
-----+-----+-----+-----+-----+-----+-----+-----+

FIG. 1A1



841 CACTACTACGGGGAAGGCTGCTCTGTCTTCTGCCGGCCCCGTGACGACCGCTTCGGTCAC 900
-----+-----+-----+-----+-----+-----+-----+
901 TTCACCTGTGGAGAGCGTGGCGAGAAGGTCTGCAACCCAGGCTGGAAGGGCCAGTACTGC 960
-----+-----+-----+-----+-----+-----+-----+
961 ACTGAGCCGATTTGCTTGCTTGGGTGTGACGAGCAGCACGGCTTCTGCGACAAACCTGGG 1020
-----+-----+-----+-----+-----+-----+-----+
1021 GAATGCAAGTGCAGAGTGGGTGGCAGGGGCGGTACTGTGACGAGTGCATCCGATACCCA 1080
-----+-----+-----+-----+-----+-----+-----+
1081 GGCTGCCTGCACGGTACCTGTCAGCAGCCATGGCAGTGCAACTGCCAGGAAGGCTGGGGC 1140
-----+-----+-----+-----+-----+-----+-----+
1141 GGCCTTTTCTGCAACCAGGACCTGAACTACTGCACTCACCACAAGCCATGCAAGAATGGT 1200
-----+-----+-----+-----+-----+-----+-----+
1201 CGGTGTACGTGGTTGTGGCCAGTCCCCTCGATGTGAACAAGAACGGCTGGACCCATGTGT 1260
-----+-----+-----+-----+-----+-----+-----+
1261 GGCTCCAGCTGCGAGATTGAAATCAACGAATGTGATGCCAACCCTTGCAAGAATGGTGGA 1320
-----+-----+-----+-----+-----+-----+-----+
1321 AGCTGCACGGATCTCGAGAACAGCTATTCTGTACCTGCCCCCAGGCTTCTATGGTAAA 1380
-----+-----+-----+-----+-----+-----+-----+
1381 AACTGTGAGCTGAGTGCAATGACTTGTGCTGATGGACCGTGCTTCAATGGAGGGCGATGC 1440
-----+-----+-----+-----+-----+-----+-----+
1441 ACTGACAACCCTGATGGTGGATACAGCTGCCGCTGCCCACTGGGTTATTCTGGGTCAAC 1500
-----+-----+-----+-----+-----+-----+-----+
1501 TGTGAAAAGAAAATCGATTACTGCAGTTCCAGCCCTTGCTAATGGAGCCCAGTGCGTT 1560
-----+-----+-----+-----+-----+-----+-----+
1561 GACCTGGGGAACTCCTACATATGCCAGTGCCAGGCTGGCTTCACTGGCAGGCACTGTGAC 1620
-----+-----+-----+-----+-----+-----+-----+
1621 GACAACGTGGACGATTGCGCCTCCTTCCCCTGCGTCAATGGAGGGACCTGTCAGGATGGG 1680
-----+-----+-----+-----+-----+-----+-----+

FIG. 1A2



15787931 072302

GTCAACGACTACTCCTGCACCTGCCCCCGGGATACAACGGGAAGAACTGCAGCACGCCG
1681 -----+-----+-----+-----+-----+-----+ 1740

GTGAGCAGATGCGAGCACAACCCCTGCCACAATGGGGCCACCTGCCACGAGAGAAGCAAC
1741 -----+-----+-----+-----+-----+-----+ 1800

CGCTACGTGTGCGAGTGCGCTCGGGGCTACGGCGGCCTCAACTGCCAGTTCCTGCTCCCC
1801 -----+-----+-----+-----+-----+-----+ 1860

GAGCCACCTCAGGGGCCGGTCATCGTTGACTTCACCGAGAAGTACACAGAGGGCCAGAAC
1861 -----+-----+-----+-----+-----+-----+ 1920

AGCCAGTTTCCCTGGATCGCAGTGTGCGCCGGGATTATTCTGGTCCTCATGCTGCTGCTG
1921 -----+-----+-----+-----+-----+-----+ 1980

TACCAGTCGGTGTACGTCATATCAGAAGAGAAAGATGAGTGCATCATAGCAACTGAGGTG
2401 -----+-----+-----+-----+-----+-----+ 2460

TAAACAGACGTGACGTGGCAAAGCTTATCGATACCGTCATCAAGCTT
2461 -----+-----+-----+-----+-----+----- 2508

FIG. 1A3

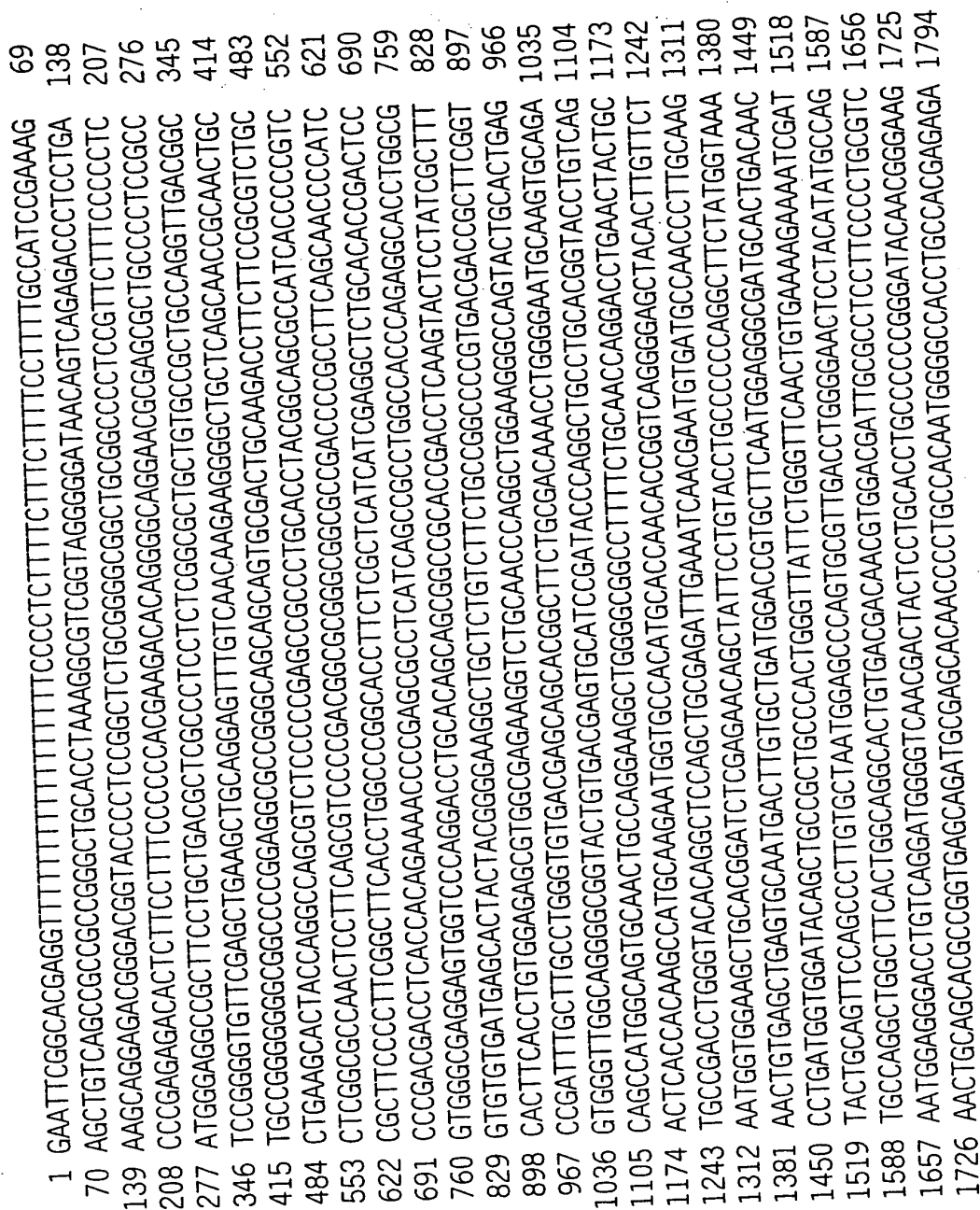


FIG. 1B1



Inventor(s): ISH-HOROWICZ ET AL
Title: "ANTIBODIES TO VERTEBRATE DELTA
PROTEINS AND FRAGMENTS"

072302

1795 AGCAACCGCTACGTGTGGAGTGGCTCGGGCTACGGGGCCCTCAACTGCCAGTTCCTGCTCCCGAG 1863
1864 CCACCTCAGGGCCGGTCACTCGTTGACTTACCGAGAAGTACACAGAGGCCAGAACAGCCAGTTTCCC 1932
1933 TGGATCGCAGTGTGGCCGGATTATCTGGTCTCATGCTGCTGGTTGGCGCCATCGTCGTC 2001
2002 TGCCTCAGGCTGAAGTGCAGAGAGGCCACCAGCCGAGGCTGCAGGAGTGAACGGAGACCATG 2070
2071 AACAACTGGCGAATGCCAGCGGAGAGGACATCTCCATCAGCGTCTCGGTGCCACTCAGATTAA 2139
2140 AACACAAATAAGAAAGTAGACTTTCACAGCGATAACTCCGATAAAACGGCTACAAAGTTAGATACCCA 2208
2209 TCAGTGGATTACAAATTTGGTGCATGAATCAAGAAAGAGGACTCTGTGAAAGAGGAGCATGGCAATGC 2277
2278 GAAGCCAAAGTGTGAACGTATGATTCAGAGGCAGAGAGAAAGCGCAGTACAGCTAAAAAGTAGTGAC 2346
2347 ACTTCTGAAAGAAACGGCCAGATTCAAGTATATCCACTTCAAGGACACAAAGTACCAGTCGGTGAC 2415
2416 GTCATATCAGAAGAGAAAGATGAGTGCAATAGCAACTGAGGTAGTATCCACCTGGCAGTCGGACA 2484
2485 AGCTTGGTGTGATTCCCATCCAGCGCAGGTCAAGGCGGCCAAACCATTCACCTGCTGCCACAGTC 2553
2554 ATCTGTACCCCAATGAAACACTGGCCACCTTCAGTCTGTGGCACTGCAGACGTTGAAAAAATTTGTTGG 2622
2623 ATTAACATAAGCTCCAGTGGGGTTACAGGACAGCAATTTTTCAGGCAAGGATATAACTGTAGTGCA 2691
2692 GTTGTAGCTTAACTACCTACTGACTCATCTTTCGTGCTTCTCCTGCAGAGCCTGTTTTTGTGTC 2760
2761 TTGAGGTGAAGTCTTGACCTCTGCATCCTCATAGTCTCTGCTTTCTTTTATTAACTCTTCTGTC 2829
2830 TCTGCTGTGTTTTCTCTCAACAGGTGTAAACAGACGTGACGTGGCAAGCTT 2883

FIG. 1B2



1 MGGRFLLTLA LLSALLCRCQ VDGSGVFELK LQEFVNKKGL LSNRNCCRGG GPGGAGQQQC
61 DCKTFFRVCL KHYQASVSPE PPCTYGSALT PVLGANSFSV PDGAGGADPA FSNPIRFPFG
121 FTWPGTFSLI IEALHTDSPD DLTENPERL ISRLATQRHL AVGEESQDL HSSGRTDLKY
181 SYRFVCDEHY YGEGCSVFCR PRDDRFHFT CGERGEKVCN PGWKGOYCTE PICLPGCDEQ
241 HGFCDKPGEC KCRVGWQGRY CDECIRYPGC LHGTCQQPWQ CNCQEGWGGL FCNQDLNYCT
301 HHKPCNGAT CTNTGQGSYT CSCRPGYTGS SCEIEINECD ANPCKNGGSC TDLENSYSCT
361 CPPGFYGNK ELSAMTCADG PCFNNGRCTD NPDGGYSCRC PLGYSGFNCE KKIDYCSSSP
421 CANGAQCVDL GNSYICQQA GFTGRHCDDN VDDCASFCV NGGTCQDGVN DYSCTCPPGY
481 NGKNCSTPVS RCEHNPCHNG ATCHERSNRY VCECARGYGG LNCQFLLPEP PQGPVIVDFT
541 EKYTEGONSQ FPWIAVCAGI ILVLMLLGC AAIVVCVRLK VQKRHHQPEA CRSETETMNN
601 LANCQREKDI SISVIGATQI KNTNKKVDFH SDNSDKNGYK VRYPVDYNL VHELKNEDSV
661 KEEHGKCEAK CETYDSEAE KSAVQLKSSD TSERKRPSV YTSKDTKYQ SVYVISEEKD
721 ECIIATEV

FIG. 2

014-1-3719
JUL 23 2002
PATENT & TRADEMARK OFFICE

Inventor(s): ISH-HOROWICZ ET AL
Title: "ANTIBODIES TO VERTEBRATE DELTA
PROTEINS AND FRAGMENTS"

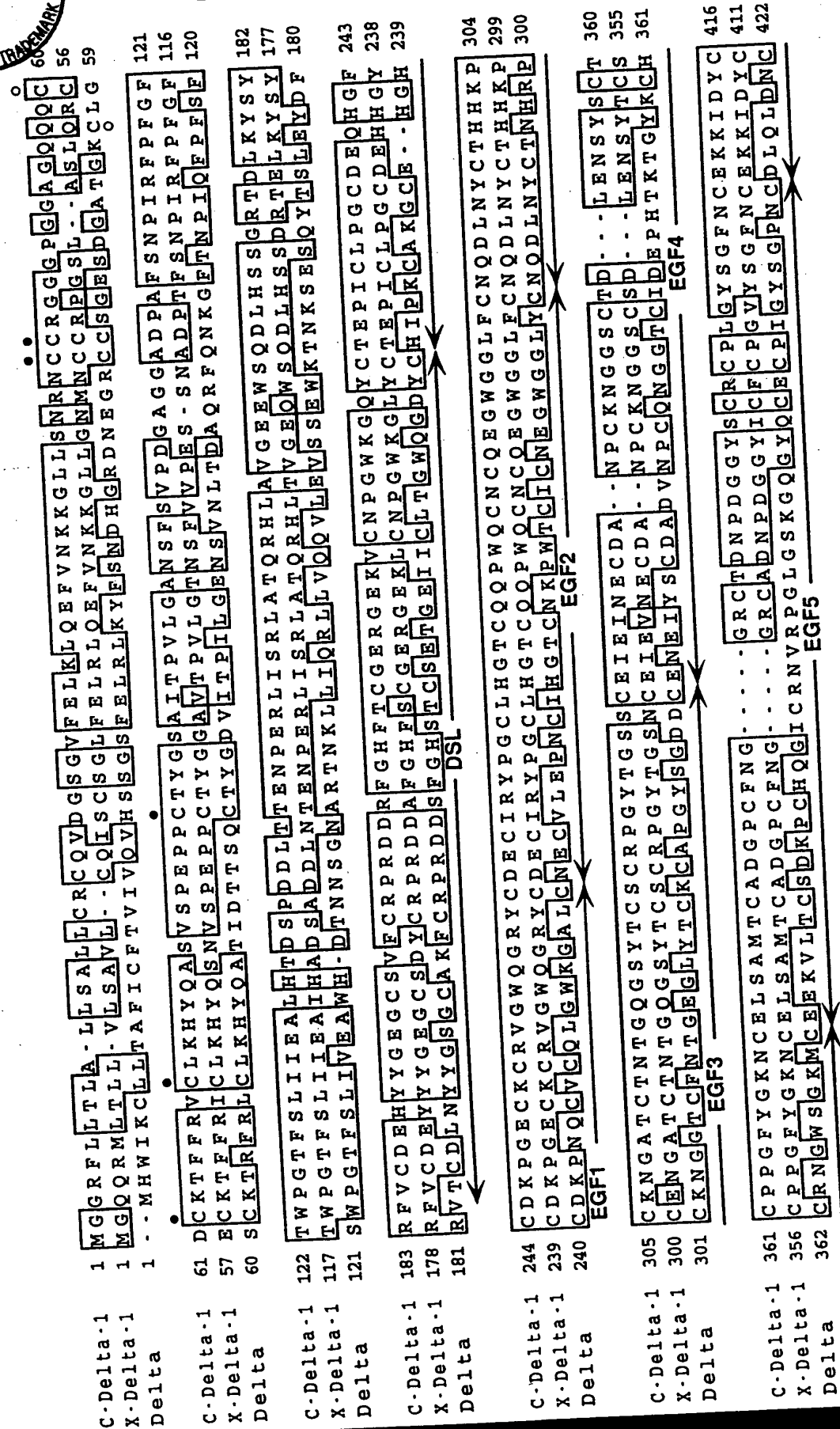
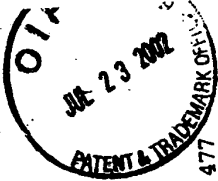


FIG. 3A



Serial No. 09/103,501
Inventor(s): ISH-HOROWICZ ET AL
Title: "ANTIBODIES TO VERTEBRATE DELTA
PROTEINS AND FRAGMENTS"

C-Delta-1 417 S S P C A N G A Q C V D L G N S Y I C Q C Q A G F T G R H C D D N V D C A S F P C V N G G T C Q D G V N D Y S C T C P 477
X-Delta-1 412 S S N P C A N G A R C E D L G N S Y I C O C Q E G F S G R N C D D N L D D C T S F P C Q N G G T C Q D G I N D Y S C T C P 472
Delta 423 S P N P C I N G G S C Q P S G K . . . C I C P S G F S G T R C E T N I D D C L G H Q C E N G G T C I D M V N Q Y R C Q C V 480
EGF6
C-Delta-1 478 P G Y N G K N C S T P V S R C E H N P C H N G A T C H E R S N R Y V C E C A R G Y G G L N C Q F L L P E P P Q G P . . . 534
X-Delta-1 473 P G Y I G K N C S M P I T K C E H N P C H N G A T C H E R N N R Y V C Q C A R G Y G G N N C Q F L L P E . . . 524
Delta 481 P G F H G T H C S S K V D L C L I R P C A N G T C L N L N N D Y Q C T C R A G F T G K D C S V D I D E C S S G P C H N G 541
EGF8
C-Delta-1 535 V I V D F T E . . . K Y T E G Q N S Q F P W . . . I A V C A G I I L V L 564
X-Delta-1 525 E K P V V D L T E . . . K Y T E G Q S G Q F P W . . . I A V C A G I V L V L 557
Delta 542 G T C M N R V N S F E C V C A N G F R G K Q C D E S Y D S V T F D A H Q Y G A T T Q A R A D G L A N A Q V V L L A V F S 602
EGF9
C-Delta-1 565 M L L L G C A A I V V C V R L K V Q K R H H Q P E A C R S E T E T M N N L A N C Q R E K D . . . I S I S V I G A T Q I K N T 623
X-Delta-1 558 M L L L G C A A V V C V R V R V Q K R R H Q P E A C R G E S K T M N N L A N C Q R E K D . . . I S V S F I G T T O I K N T 616
Delta 603 V A M P L V A V I A A C V V F C M K R R K R A Q E K D N A E A R K Q N E Q N A V A T M H H N G S A V G V A L A S A S M G 663
TM
C-Delta-1 624 N K K V D F H S D . N S D K N G Y K V R Y P S V D Y N L V H E L K N E D S V K E E H G K C E A K C E T Y D S E A E E K S A 683
X-Delta-1 617 N K K I D F L S E S N N E K N G Y K P R Y P S V D Y N L V H E L K N E D S P K E E R S K C E A K C S S N D S D S E D V N S 677
Delta 664 G K T G S N S G L T F D G G N P N I I K N T W D K S V N . N I C A S A A A A A A A A A A D E C L M Y G G Y V A S V A D N 723
728
C-Delta-1 684 V Q L K S D T S E R K R P D S V Y S T S K D T K Y Q S V Y V I S E E K D E C I I A T E V 721
X-Delta-1 678 V H S K . R D S S E R R R P D S A Y S T S K D T K Y Q S V Y V I S D E K D E C I I A T E V 784
Delta 724 N N A N S D F C V A P L Q R A K S Q K Q L N T D P T L M H R G S P A G T S A K G A S G G G P G A A E G K R I S V L G E G S 832
785 Y C S Q R W P S L A A A G V A G A C S S Q L M A A A A A G T D G T A Q Q R S V V C G T P H M

FIG. 3B



Serial No. 09/103,531
Inventor(s): ISH-HOROWICZ ET AL
Title: "ANTIBODIES TO VERTEBRATE DELTA
PROTEINS AND FRAGMENTS"

12,795,034 .072302

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-------------|-----|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-----|-----|-----|
| C-Delta-1 | 184 | V | C | D | E | H | Y | Y | G | E | G | C | S | V | F | C | R | P | R | D | D | R | F | G | H | F | T | C | G | E | R | G | E | K | V | C | N | P | G | W | K | G | Y | C | 228 | | |
| Delta | 182 | V | T | C | D | L | N | Y | Y | G | S | G | C | A | K | F | C | R | P | R | D | D | S | F | G | H | S | T | C | S | E | T | G | E | I | I | C | L | T | G | W | Q | G | D | Y | C | 226 |
| Serrate | 235 | V | Q | C | A | V | T | Y | Y | N | T | T | C | T | T | F | C | R | P | R | D | D | Q | F | G | H | Y | A | C | G | S | E | Q | K | L | C | L | N | G | W | Q | G | V | N | C | 279 | |
| C-Serrate-1 | | V | T | C | A | E | H | Y | Y | G | F | G | C | N | K | F | C | R | P | R | D | D | E | F | T | H | H | T | C | D | Q | N | G | N | K | T | C | L | E | G | W | T | G | P | E | C | |
| Apx-1 | 130 | N | L | C | S | S | N | Y | H | G | K | R | C | N | R | Y | C | I | A | N | - | A | K | L | H | W | E | - | C | S | T | H | G | V | R | R | C | S | A | G | W | S | G | E | D | C | 172 |
| Lag-2 | 120 | V | T | C | A | R | N | Y | F | G | N | R | C | E | N | F | C | D | A | H | L | A | K | A | R | K | R | C | D | A | M | G | R | L | R | C | D | I | G | W | M | G | P | H | C | 166 | |

FIG. 4



Inventor(s): ISH-HOROWICZ ET AL
Title: "ANTIBODIES TO VERTEBRATE DELTA
PROTEINS AND FRAGMENTS"

00793931.072302



FIG.5A

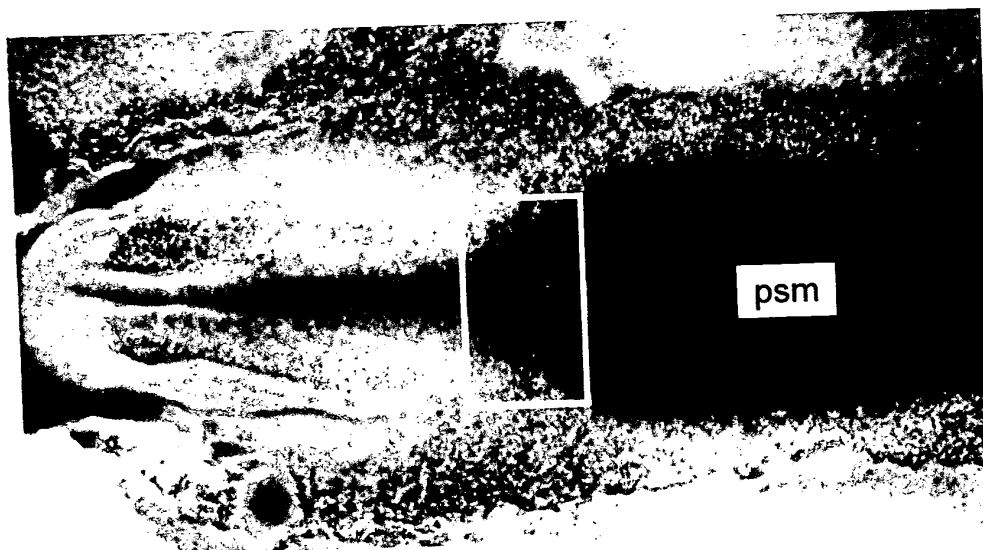


FIG.5B

Inventor(s): ISH-HOROWICZ ET AL
Title: "ANTIBODIES TO VERTEBRATE DELTA
PROTEINS AND FRAGMENTS"

072302

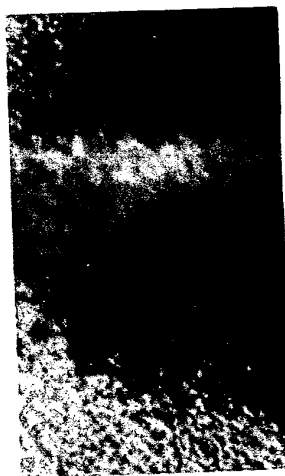


FIG.5C



FIG.5D



Inventor(s): ISH-HOROWICZ ET AL
Title: "ANTIBODIES TO VERTEBRATE DELTA
PROTEINS AND FRAGMENTS"

11783931.072302

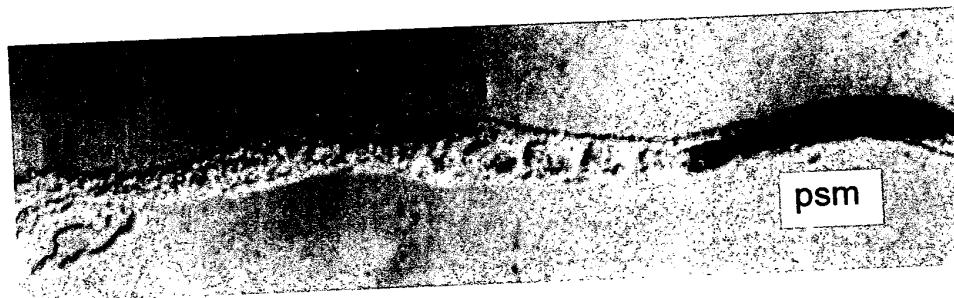


FIG.5E

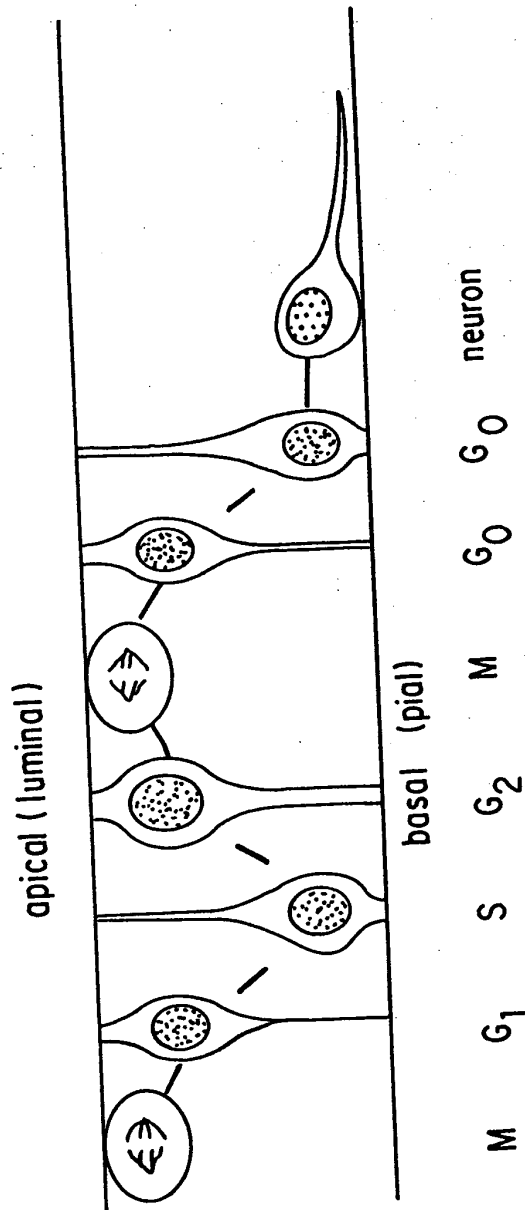


FIG. 6A



Inventor(s): ISH-HOROWICZ ET AL
Title: "ANTIBODIES TO VERTEBRATE DELTA PROTEINS AND FRAGMENTS" 11783931.072302

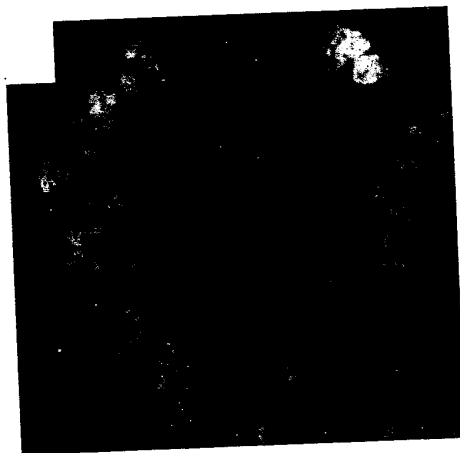


FIG. 6B

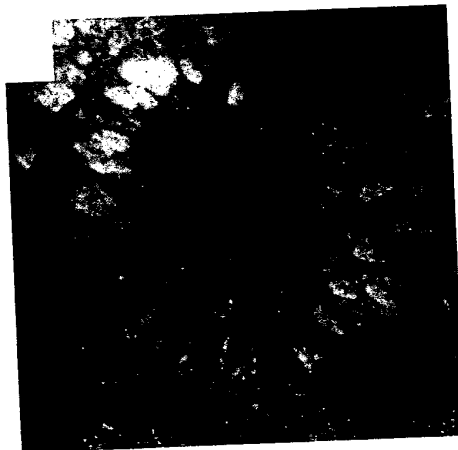


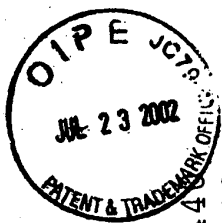
FIG. 6C



60
120
180
240
300
360
420
480
540
600
660
720
780
840
900
960
1020
1080
1140
1200
1260
1320
1380

CTGCAGGAAT TCSMYCGCAT GCTCCCGGCC GCCATGGGCC GTCGGAGCGC GCTAGCCCTT
GCCGTGGTCT CTGCCCTGCT GTGCCAGGTC TGGAGCTCCG GCGTATTGA GCTGAAGCTG
CAGGAGTTCTG TCAACAAGAA GGGCTGCTG GGAACCGCA ACTGCTGCCG CCGGGCTCT
GGCCCGCCTT GGCCTGCAG GACCTTCTTT CACCTACGGC AGTGCCGTCA CGCCAGTGCT GGTGTCGAC
GTGTCACCCG AGCCACCCTG AGCCAGCATC GACCCCGCCT TCAGCAACCC CATCCGATT
TCCTTCAGCC TGCTGATGG TGCTGATGG AGTACCTTC TCTCTGATCA TTGAAGCCCT CCATACAGAC
CCCTTCGGCT TCACCTGGCC ACCTCGCAAC AGAAACCCCA GAAAGACTCA TCAGCCGCCCT GACCACACAG
TCTCCCGATG ACCTCGCAAC CTGTGGGAGA AGAATGGTCT CAGGACCTTC ACAGTAGCGG CCGCACAGAC
AGGCACCTCA CTGTGGGAGA CTTACCGGTT TGTGTGTGAC TGCACTACT GAGGAGAGG TTGCTCTGTG
CTCCGGTACT CTCGGGATGA CGCCTTTGGC AGGCCAGTAC GGGGAGTGCA AGTGACAGAT TGGCTGGCAG
TTCTGCCGAC ATGGATCTG GCGATGAGTG GTAAAGGCTGG CATCCGATAC CCAGTTGTC TCCATGGCAC CTGCCAGCAA
ATGTGCGACC GCGATGAGTG GTAAAGGCTGG CATCCGATAC GGGGCTTTT TCTGCAACCA AGACCTGAAC
GATGACCAAC ATGGATCTG GCGATGAGTG GTAAAGGCTGG CATCCGATAC GGGGCTTTT TCTGCAACCA AGACCTGAAC
GGCCGCTACT GTAACTGCCA ACCATAAGCC GTTCCCTGCCG ACCTGGGTAT CCGAGCTGCA GCGAGCTTGA GGACAGCTTC
CCCTGGCAGT GTAACTGCCA ACCATAAGCC GTTCCCTGCCG ACCTGGGTAT CCGAGCTGCA GCGAGCTTGA GGACAGCTTC
TACTGTACTC ACCATAAGCC GTTCCCTGCCG ACCTGGGTAT CCGAGCTGCA GCGAGCTTGA GGACAGCTTC
AGCTACACAT GTTCCCTGCCG ACCTGGGTAT CCGAGCTGCA GCGAGCTTGA GGACAGCTTC
GAGTGTGCTC GTTCCCTGCCG ACCTGGGTAT CCGAGCTGCA GCGAGCTTGA GGACAGCTTC
TCTTGCACCT GTTCCCTGCCG ACCTGGGTAT CCGAGCTGCA GCGAGCTTGA GGACAGCTTC
GCAGATGGCC GTTCCCTGCCG ACCTGGGTAT CCGAGCTGCA GCGAGCTTGA GGACAGCTTC
TGCCATGGCC GTTCCCTGCCG ACCTGGGTAT CCGAGCTGCA GCGAGCTTGA GGACAGCTTC
TCTTCCCTTT GTTCCCTGCCG ACCTGGGTAT CCGAGCTGCA GCGAGCTTGA GGACAGCTTC
TGCCAGGCTG GTTCCCTGCCG ACCTGGGTAT CCGAGCTGCA GCGAGCTTGA GGACAGCTTC

FIG. 7A



144
1500
1560
1620
1680
1740
1800
1860
1920
1980
2040
2100
2160
2220
2280
2340
2400
2460
2520
2580
2640
2692

CCGTGTGCAA ATGGGGGCAC CTGCCGGGAC AGTGTGAACG ACTTCTCCTG TACCTGCCCA
CCTGGCTACA CGGGCAAGAA CTGCAGCGCC CCTGTCAAGCA GGTGTGAGCA TGCACCCCTGC
CATAATGGGG CCACCTGCCA CCAGAGGGGC CAGCGCTACA TGTGTGAGTG CGCCACAGGC
TATGGCGGCC CCAACTGCCA GTTCTGCTC CCTGAGCCAC CACCAGGCC CATTGGTGTG
GACCTCAGTG AGAGGCATAT GGAGAGCCAG GCGGGCCCT TCCCCTGGGT GGCCGTGTGT
GCCGGGGTGG TGCTTGTCCT CCTGCTGCTG CTGGGCTGTG CTGCTGTGGT GGTCTGCCGTC
CGGCTGAAGC TACAGAAACA CCAGCCTCCA CCTGAACCCT GTGGGGAGA GACAGAAACC
ATGAACAACC TAGCCAATTG CCAGCGCGAG AAGGACGTTT CTGTTAGCAT CATTGGGGCT
ACCCAGATCA AGAACACCAA CAAGAAGCG GACTTTCACG GGGACCATGG AGCCGAGAAG
AGCAGCTTAA AGGTCCGATA CCCCACTGTG GACTATAACC TCGTTCGAGA CCTCAAGGGA
GATGAAGCCA CGGTCAGGGA TACACACAGC AAACGTGACA CCAAGTGCCA GGCAGATTCC
TCTGCAGGAG AAGAGAAGAT CGCCCCAACA CTTAGGGGTG GAGAGATTCC GTATGTTCTG
AGGCCAGAGT CTGTCTACTC TACTTCAAAG GACACCAAGT ACCAGTCGGT GATGTTCTG
TCTGCAGAAA AGGATGAGTG TGTTATAGCG ACTGAGGTGT AAGATGGAAG CGATGTGGCA
AAATTCCCAT TTCCTCTAAA TAAATTTCCA AGGATATAGC CCCGATGAAT GCTGCTGAGA
GAGGAAGGGA GAGGAAACCC AGGGACTGCT GCTGAGAACCC AGGTTCAAGC GAACGTGGTT
CTCTCAGAGT TAGCAGAGGC GCCCGACACT GCCAGCCTAG GCTTTGGCTG CCGCTGGACT
GCCTGCTGGT TGTTCCTCAT GCACATATGA CAGTTGCTTT CAGAGTATA TATTTAAATG
GACGAGTGAC TTGATTCTATA TAGGAAGCAC GCACTGCCCCA CACGTCATATC TTGGATTACT
ATGAGCCAGT CTTTCCTTGA ACTAGAAACA CAACTGCCTT TATGTCCCTT TTGATACTG
AGATGTGTTT TTTTTTTTTC CTAGACGGGA AAAAGAAAC GTGTGTTATT TTTTGTGGGA
TTTGTAAGAA TATTTTTCAT GATTATGGGA GAGCTCCCAA CGCGTTGGAG GT

FIG. 7B



50 MGRSALALA VVSALLCQVW SSGVFELKLQ EFVNKKGLLG NRNCCRGSGG
100 PPCACRTFFR VCLKHYQASV SPEPPCTYGS AVTPVLGVDS FSLPDGAGID
150 PAFSNPIRFP FGFTWPGTFS LIIEALHTDS PDDLATENPE RLISRLTTQR
200 HLTVGEESQ DLHSSGRTDL RYSYRFVUDE HYYGEGCSVF CRPRDDAFGH
250 FTCGDRGEM CDPGWKGQYC TDPICLPGCD DQHGCDKPG ECKCRVWQWQ
300 RYCDECIRYP GCLHGTCQQP WQNCQEGWG GLFCNQDLNY CTHHKPCRNG
350 ATCTNTGQGS YTCSCRPGYT GANCELEVDE CAPSPCKNGA SCTDLEDSEFS
400 CTCPPGFYBK VCELSAMTCA DGPCFNGGRC SDNPDGGYTC HCPLGFSGFN
450 CEKKMDLCS SPCSNGAKCV DLGNSYLCRC QAGFSGRYCE DNVDDCASSP
500 CANGGTCRDS VNDFSCTCP P GYTGNKCSAP VSRCEHAPCH NGATCHQRGQ
550 RYMCECAQGY GGPNCQFLLP EPPPGPMVVD LSEHMHESQG GPFPWAVCA
600 GVVLVLLLLL GCAAVVVCVR LKLQKHQPPP EPCGGTETEM NNLANCQREK
650 DVSVSIIIGAT QIKNTNKKAD FHGDHGAESK SFKVRYPPTVD YNLVRDLKGD
700 EATVRDTHSK RDTKCQSQSS AGEKIAPTL RGGEIPDRKR PESVYSTSKD
722 TKYQSVYVLS AEKDECVIAT EV

FIG. 8

JUL 23 2002
PATENT & TRADEMARKS

Inventor(s): ISH-HOROWICZ ET AL
Title: "ANTIBODIES TO VERTEBRATE DELTA PROTEINS AND FRAGMENTS"

| | | | | | | |
|-----------------|--------------|---------------|--------------|--------------|---------------|-----|
| CHICK DELTA | MGGRFLTLA | LLSALLRCQ | VDGSGVFELK | LQEFVNKKGL | LSNRNCCRGG | 50 |
| MOUSE DELTA.PEP | MGRSALALA | VVSALLCQ | VWSSGVFELK | LQEFVNKKGL | LGNRNCCRGG | 48 |
| CONSENSUS | MG.R..L.LA | ..SALLC... | V..SGVFELD | LQEFVNKKGL | L..NRNCCRGG | 50 |
| CHICK DELTA | GPCGAGQQQC | DCKTFFRVCL | KHYQASVSPE | PPCTYGSALT | PVLGANSFSV | 100 |
| MOUSE DELTA.PEP | —SGP—PC | ACRTFFRVCL | KHYQASVSPE | PPCTYGSAMT | PVLGVDSFSL | 93 |
| CONSENSUS | ...G.....C | .C.TFFRVCL | KHYQASVSPE | PPCTYGSA..T | PVLG...SFS. | 100 |
| CHICK DELTA | PDGAGGADPA | FSNPIRFPFG | FTWPGTFSLI | IEALHTDSPD | DLTTENPERL | 150 |
| MOUSE DELTA.PEP | PDGAG—IDPA | FSNPIRFPFG | FTWPGTFSLI | IEALHTDSPD | DLATENPERL | 142 |
| CONSENSUS | PDGAG..DPA | FSNPIRFPFG | FTWPGTFSLI | IEALHTDSPD | DL..TENPERL | 150 |
| CHICK DELTA | ISRLATQRHL | AVGEEWSQDL | HSSGRDLY | SYRFVCDEHY | YGEGCSVFCR | 200 |
| MOUSE DELTA.PEP | ISRLTTQRHL | TVGEEWSQDL | HSSGRDLY | SYRFVCDEHY | YGEGCSVFCR | 192 |
| CONSENSUS | ISRL..TQRHL | .VGEEWSQDL | HSSGRDLY | SYRFVCDEHY | YGEGCSVFCR | 200 |
| CHICK DELTA | PRDDRFGHFT | CGERGEKMCN | PGWKQYCTE | PICLPGCCDQ | HGCDKPGEC | 250 |
| MOUSE DELTA.PEP | PRDDAFGHFT | CGERGEKMC | PGWKQYCTD | PICLPGCCDQ | HGCDKPGEC | 242 |
| CONSENSUS | PRDD..FGHFT | CG..RGEK..C. | PGWKQYCT. | PICLPGCCD..Q | HG..CDKPGEC | 250 |
| CHICK DELTA | KCRVGWQGRY | CDECIRYPGC | LHGTCQQPWQ | CNCQEGWGGL | FCNQDLNYCT | 300 |
| MOUSE DELTA | KCRVGWQGRY | CDECIRYPGC | LHFTCQQPWQ | CNCQEGWGGL | FCNQDLNYCT | 292 |
| CONSENSUS | KCRVGWQGRY | CDECIRYPGC | LHGTCQQPWQ | CNCQEGWGGL | FCNQDLNYCT | 300 |
| CHICK DELTA | HHKPCINGAT | CTNTGQGSTY | CSCRPGYTGS | SCELEINECD | ANPCKNGGSC | 350 |
| MOUSE DELTA.PEP | HHKPCINGAT | CTNTGQGSYT | CSCRPGYTGA | NCELEVDECA | PSPCKNGASC | 342 |
| CONSENSUS | HHKPC..NGAT | CTNTGQGSYT | CSCRPGYTG.. | .CE..E..EC. | ..PCKNG..SC | 350 |
| CHICK DELTA | TDLENSYSCT | CPPGFYKNC | ELSAMTCADG | PCFNGGROTD | NPDGGYSORC | 400 |
| MOUSE DELTA.PEP | TDLEDSFSCT | CPPGFYKNC | ELSAMTCADG | PCFNGGROSD | NPDGGYTCHC | 392 |
| CONSENSUS | TDLE..S..SCT | CPPGFYKNC | ELSAMTCADG | PCFNGGRO..D | NPDGGY..C..C | 400 |
| CHICK DELTA | PLGYSGFNCE | KKIDYCSSP | CANGACVDL | GNSYLCCQA | GFTGRHCDN | 450 |
| MOUSE DELTA.PEP | PLGFSGFNCE | KKIDLCSSP | CSNGAKVDL | GNSYLRCQA | GFSGRYCDN | 442 |
| CONSENSUS | PLG..SGFNCE | KK..D..C..SSP | C..NGA..CVDL | GNSY..C..CQA | GF..GR..C..DN | 450 |

FIG.9A



| | | | | | | | | | | | | |
|-----------------|------------|--------|--------|-----------|--------|------------|------------|--------|-----------|--------|--------------|-----|
| CHICK DELTA | VDDCAS | PCV | NGGTC | QGVN | DY | SCTCPPGY | NGKNCST | PVS | RCEH | PCHNG | 500 | |
| MOUSE DELTA.PEP | VDDCASSPCA | | NGGTC | QSVN | DF | SCTCPPGY | TGKNCSA | PVS | RCEH | PCHNG | 492 | |
| CONSENSUS | VDDCAS | PC | NGGTC | QGVN | D | SCTCPPGY | GKNCS | PVS | RCEH | PCHNG | 500 | |
| CHICK DELTA | ATCH | RSNRY | VCECA | GYGG | LNCQ | LLPEP | PG | GV | VD | FT | EKYTEGQNSQ | 550 |
| MOUSE DELTA | ATCH | RGORY | VCECA | GYGG | PNCQ | LLPEP | PG | GM | VD | LS | ERHMEGQGP | 542 |
| CONSENSUS | ATCH | R | RY | CECA | GYGG | LNCQ | LLPEP | P | GP | VD | E...E...Q... | 550 |
| CHICK DELTA | FPW | AVCAGI | ILVLM | LLGC | AA | VVCVRLK | VQKRHHQPEA | CR | SE | TETMNN | 600 | |
| MOUSE DELTA.PEP | FPW | AVCAGV | VLVLL | LLGC | AA | VVCVRLK | LQKHQPPPEP | CG | GE | TETMNN | 592 | |
| CONSENSUS | FPW | AVCAG | LV | LLGC | AA | VVCVRLK | QK...PE | C | SE | TETMNN | 600 | |
| CHICK DELTA | LANCQREKDI | SIS | IGATQI | KNTNKK | DFH | SDN | SDKNGY | KVRYPS | VDYN | 649 | | |
| MOUSE DELTA | LANCQREKDV | SVS | IGATQI | KNTNKK | DFH | GDHGAEKSSF | | KVRYPT | VDYN | 642 | | |
| CONSENSUS | LANCQREKD | S | S | IGATQI | KNTNKK | DFH | D...K... | KVRYP | VDYN | 650 | | |
| CHICK DELTA | LVHELKNE | SVKEE | HKCE | AKCETYD | SEA | EEKSA | VOLKS | SDTSE | RKRP | 698 | | |
| MOUSE DELTA.PEP | LVRDLKGDEA | TVRDTH | SKRD | TKQSQSSAG | | EEKI | APT | RG | GEIPDRKRP | 692 | | |
| CONSENSUS | LV | LK | M | H | K | K | S | EEK | A | RKRP | 700 | |
| CHICK DELTA | SVYSTSKDTK | YQSVYV | ISEE | KDECI | IATEV | 728 | | | | | | |
| MOUSE DELTA.PEP | SVYSTSKDTK | YQSVYV | LSAE | KDECV | IATEV | 722 | | | | | | |
| CONSENSUS | SVYSTSKDTK | YQSVYV | S | E | KDECI | IATEV | 730 | | | | | |

FIG.9B



10 20 30 40 50 60
* * * * *
TACGATGAAY AACCTGGCGA ACTGCCAGCG TCAGAAGGAC ATCTCAGTCA GCATCATCGG
Y D E X P G E L P A * E G H L S Q H H R>
T M N N L A N C Q R E K D I S V S I I G>
R * X T W R T A S V R R T S Q S A S S>

70 80 90 100 110 120
* * * * *
GGCYACGTCA GATCARGAAC ACCAACAAGA AGGCGGACTT YMCASCGGGG GACCASAGCG
G X V R S X T P T R R R T X X R G T X A>
A T S D Q E H Q Q E G G L X X G G P X R>
G X R Q I X N T N K K A D F X X G D X S>

130 140 150 160 170 180
* * * * *
TCCGACAAGA ATGGMTTTC AAGCCYGCTA CCCCAGCGTG GACTATAACT CGTGCAGGAC
S D K N G F Q G P L P Q R G L * L V Q D>
P T R M X F K A R Y P S V D Y N S C R T>
V R Q E W X S R P A T P A W T I T R A G>

190 200 210 220 230 240
* * * * *
CTCAAGGGTG ACGACACCGC CGTCAGGACG TCGCACAGCA AGCGTGACAC CAAGTGCCAG
L K G D D T A V R T S H S K R D T K C Q>
S R V T T P P S G R R T A S V T P S A S>
P Q G * R H R R Q D V A Q Q A * H Q V P>

250 260 270 280 290 300
* * * * *
TCCCCAGGCT CCTCAGGGAG GAGAAGGGGA CCCCACCAC ACTCAGGGGK TCGTGCTGC
S P G S S G R R R G P R P H S G X A C C>
P Q A P Q G G E G D P D H T Q G X R A A>
V P R L L R E E K G T P T T L R G C V L>

310 320 330 340 350 360
* * * * *
GGGCCGGGCT CAGGAGGGGG TACCTGGGGG GTGTCTTCCT GGAACCACTG CTCCGTTTCT
G P G S G G G T W G V S S W N H C S V S>
G R A Q E G V P G G C L P G T T A P F L>
R A G L R R G Y L G G V F L E P L L R F>

FIG. 10A



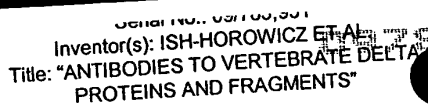
Serial NO.: 09/105,931
Inventor(s): ISH-HOROWICZ ET AL
Title: "ANTIBODIES TO VERTEBRATE DELTA
PROTEINS AND FRAGMENTS"

370 380 390 400 410 420
* * *
CTTCCCAAAT GTTCTCATGC ATTCATTGTG GATTTTCTCT ATTTTCCTTT TAGTGGAGAA
L P K C S H A F I V D F L Y F P F S G E>
F P N V L M H S L W I F S I F L L V E K>
S S Q M F S C I H C G F S L F S F * W R>

430 440 450 460 470 480
* * *
GCATCTGAAA GAAAAAGGCC GGACTCGGGC TGTTCAACTT CAAAAGACAC CAAGTACCAG
A S E R K R P D S G C S T S K D T K Y Q>
H L K E K G R T R A V Q L Q K T P S T S>
S I * K K K A G L G L F N F K R H Q V P>

490 500 510 520
* * *
TCGGTGTACG TCATATCCGA GGAGAAGGAC GAGTGCGTCA TCGCA
S V Y V I S E E K D E C V I A>
R C T S Y P R R R T S A S S>
V G V R H I R G E G R V R H R>

FIG. 10B



RECEIVED

Inventor(s): ISH-HOROWICZ ET AL

Title: "ANTIBODIES TO VERTEBRATE PROTEINS AND FRAGMENTS"

ETAL 2021 072302

FIG. 11



| | | | | | | |
|------------|------------|------------|------------|------------|------------|----|
| | 10 | 20 | 30 | 40 | 50 | 60 |
| * | * | * | * | * | * | * |
| CATTGGGTAC | GGGCCCCCT | CGAGGTCGAC | GGTATCGATA | AGCTTGATAT | CGAATTCCGG | |
| 70 | 80 | 90 | 100 | 110 | 120 | |
| * | * | * | * | * | * | * |
| CTTCACCTGG | CCGGGCACCT | TCTCTCTGAT | TATTGAAGCT | CTCCACACAG | ATTCTCCTGA | |
| 130 | 140 | 150 | 160 | 170 | 180 | |
| * | * | * | * | * | * | * |
| TGACCTCGCA | ACAGAAAACC | CAGAAAGACT | CATCAGCCGC | CTGGCCACCC | AGAGGCACCT | |
| 190 | 200 | 210 | 220 | 230 | 240 | |
| * | * | * | * | * | * | * |
| GACGGTGGGC | GAGGAGTGGT | CCCAGGACCT | GCACAGCAGC | GGCCGCACGG | ACCTCAAGTA | |
| 250 | 260 | 270 | 280 | 290 | 300 | |
| * | * | * | * | * | * | * |
| CTCCTACCGC | TTCGTGTGTC | ACCAACACTA | CTACGGAGAG | GGCTGCTCCG | TTTCTGCCG | |
| 310 | 320 | 330 | 340 | 350 | 360 | |
| * | * | * | * | * | * | * |
| TCCCCGGGAC | GATGCCTTCG | GCCACTTCAC | CTGTGGGGAG | CGTGGGGAGA | AAGTGTGCAA | |
| 370 | 380 | 390 | 400 | 410 | 420 | |
| * | * | * | * | * | * | * |
| CCCTGGCTCG | AAAGGGCCCT | ACTGCACAGA | GCCGATCTGC | CTGCCTGGAT | GTGATGAGCA | |
| 430 | 440 | 450 | 460 | 470 | 480 | |
| * | * | * | * | * | * | * |
| GCATGGATTT | TGTGACAAAC | CAGGGGAATG | CAAGTGCAGA | GTGGGCTGGC | AGGGCCGGTA | |
| 490 | 500 | 510 | 520 | 530 | 540 | |
| * | * | * | * | * | * | * |
| GTGTGACGAG | TGTATCCGCT | ATCCAGGCTG | TCTCCATGGC | ACCTGCCAGC | AGCCCTGGCA | |
| 550 | 560 | 570 | 580 | 590 | 600 | |
| * | * | * | * | * | * | * |
| GTGCAACTGC | CAGGAAGGNT | GGGGGGGCCT | TTTCTGCAAC | CAGGACCTGA | ACTACTGCAC | |
| 610 | 620 | 630 | 640 | 650 | 660 | |
| * | * | * | * | * | * | * |
| ACACCATAAG | CCCTGCAAGA | ATGGAGCCAC | CTGCAACAAA | CACGGGCCAG | GGGGAGCTAC | |
| 670 | 680 | 690 | 700 | 710 | 720 | |
| * | * | * | * | * | * | * |
| ACTTGGTCTT | TGGCCGGNCT | GGGGTACANA | GGGTGCCACC | TGCGAAGCTT | GGGGATTGGA | |
| 730 | 740 | 750 | 760 | 770 | 780 | |
| * | * | * | * | * | * | * |
| CGAGTTGTTG | ACCCCAGCCC | TTGGTAAGAA | CGGAGGGAGC | TTGACGGATC | TTCGGAGAAC | |
| 790 | 800 | 810 | 820 | 830 | 840 | |
| * | * | * | * | * | * | * |
| AGCTACTCCT | GTACCTGCCC | ACCCGGCTTC | TACGGCAAAA | TCTGTGAATT | GAGTGCCATG | |
| 850 | 860 | 870 | 880 | 890 | 900 | |
| * | * | * | * | * | * | * |
| ACCTGTGCGG | ACGGCCCTTG | CTTTAACGGG | GGTCGGTGCT | CAGACAGCCC | CGATGGAGGG | |

FIG. 12A1



| | | | | | |
|------------|------------|------------|------------|------------|------------|
| 910 | 920 | 930 | 940 | 950 | 960 |
| * | * | * | * | * | * |
| TACAGCTGCC | GCTGCCCCGT | GGGCTACTCC | GGCTTCAACT | GTGAGAAGAA | AATTGACTAC |
| 970 | 980 | 990 | 1000 | 1010 | 1020 |
| * | * | * | * | * | * |
| TGCAGCTCTT | CACCCTGTTC | TAATGGTGCC | AAGTGTGTGG | ACCTCGGTGA | TGCCTACCTG |
| 1030 | 1040 | 1050 | 1060 | 1070 | 1080 |
| * | * | * | * | * | * |
| TGCCGCTGCC | AGGCCGGCTT | CTCGGGGAGG | CACTGTGACG | ACAACGTGGA | CGACTGCGCC |
| 1090 | 1100 | 1110 | 1120 | 1130 | 1140 |
| * | * | * | * | * | * |
| TCCTCCCCGT | GCGCCAACGG | ACCTCGGTGA | CGGGATGGCG | TGAACGACTT | CTCCTGCACC |
| 1150 | 1160 | 1170 | 1180 | 1190 | 1200 |
| * | * | * | * | * | * |
| TGCCCCGCTG | GCTACACGGG | CAGGAACTGC | AGTGCCCCCG | CCAGCACCTG | CGAGCACGCA |
| 1210 | 1220 | 1230 | 1240 | 1250 | 1260 |
| * | * | * | * | * | * |
| CCCTGCCACA | ATGGGGCCAC | CTGCCACGAG | AGGGGCCACC | GCTATNTGTG | CGAGCACGCA |
| 1270 | 1280 | 1290 | 1300 | 1310 | 1320 |
| * | * | * | * | * | * |
| CGAAGCTACG | GGGGTCCCAA | CTCCANTTC | CTGCTCCCCC | AAACTGCCCC | CCCGGCCCCA |
| 1330 | 1340 | 1350 | 1360 | 1370 | 1380 |
| * | * | * | * | * | * |
| CGGTGGTGGG | AACTCCCCTA | AAAAACCTA | AAAGGGCCGG | GGGGGGCCCA | TCCCCTTGGT |
| 1390 | 1400 | 1410 | 1420 | 1430 | 1440 |
| * | * | * | * | * | * |
| GGACGTGTGC | GCCGGGGTCA | TCCTTGTCTT | CATGCTGCTG | CTGGGCTGTG | CCGCTGTGGT |
| 1450 | 1460 | 1470 | 1480 | 1490 | 1500 |
| * | * | * | * | * | * |
| GGTCTGCGTC | CGGCTGAGGC | TGCAGAAGCA | CCGGCCCCCA | GCCGACCCTT | GNCGGGGGGA |
| 1510 | 1520 | 1530 | 1540 | 1550 | 1560 |
| * | * | * | * | * | * |
| GACGGAGACC | ATGAACAACC | TGGNCAACTG | CCAGCGTGAG | AAGGACATCT | CAGTCAGCAT |
| 1570 | 1580 | 1590 | 1600 | 1610 | 1620 |
| * | * | * | * | * | * |
| CATCGGGGNC | ACGCAGATCA | AGAACACCAA | CAAGAAGGCG | GACTTCCACG | GGGACCACAG |
| 1630 | 1640 | 1650 | 1660 | 1670 | 1680 |
| * | * | * | * | * | * |
| NGCCGACAAG | AATGGCTTCA | AGGCCCGCTA | CCCAGNGGTG | GACTATAACC | TCGTGCAGGA |
| 1690 | 1700 | 1710 | 1720 | 1730 | 1740 |
| * | * | * | * | * | * |
| CCTCAAGGGT | GACGACACCG | CCGTCAGCCA | CGCGCACAGC | AAGCGTGACA | CCAAGTGNCA |
| 1750 | 1760 | 1770 | 1780 | 1790 | 1800 |
| * | * | * | * | * | * |
| GCCCCAGGGC | TCCTCAGGGG | AGGAGAAGGG | GACCCCCGAC | CCCACTCAG | GGGGTGGAGG |

FIG.12A2

Serial NO.: 09/703,331

Inventor(s): ISH-HOROWICZ ET AL
Title: "ANTIBODIES TO VERTEBRATE DELTA
PROTEINS AND FRAGMENTS"



| | | | | | |
|------------|------------|------------|------------|------------|------------|
| 1810 | 1820 | 1830 | 1840 | 1850 | 1860 |
| * * | * * | * * | * * | * * | * * |
| AAGCATCTTG | AAAGAAAAAG | GCCGGACTTC | GGGCTTGTC | AACTTCAAA | AGACAANCA |
| 1870 | 1880 | 1890 | 1900 | 1910 | 1920 |
| * * | * * | * * | * * | * * | * * |
| NGTACAAGTC | GGTGTCGTC | ATTTCCGNAG | GAGGAAGGNT | GACTGCGTCA | TAGGAANTTG |
| 1930 | 1940 | 1950 | 1960 | 1970 | 1980 |
| * * | * * | * * | * * | * * | * * |
| AGGTNGTAAA | NTGGNAGTTG | ANNTTGAAAA | GNNNTCCCCG | GATTCCGNTT | TCAAAGTTTT |

T

FIG. 12A3



10 20 30 40 50 60
* * * * *
CATTGGGTAC GGGCCCCCT CGAGGTGCAC GGTATCGATA AGCTTGATAT CGAATTCGG
H W V R A P L E V D G I D K L D I E F R> 20
I G Y G P P S R S T V S I S L I S N S G> 20
L G T G P P R G R R Y R * A * Y R I P> 19

70 80 90 100 110 120
* * * * *
CTTCACCTGG CCGGGCACCT TCTCTCTGAT TATTGAAGCT CTCCACACAG ATTCTCCTGA
L H L A G H L L S D Y * S S P H R F S *> 40
F T W P G T F S L I I E A L H T D S P D> 40
A S P G R A P S L * L L K L S T Q I L L> 39

130 140 150 160 170 180
* * * * *
TGACCTCGCA ACAGAAAACC CAGAAAGACT CATCAGCCGC CTGGCCACCC AGAGGCACCT
* P R N R K P R K T H Q P P G H P E A P> 60
D L A T E N P E R L I S R L A T Q R H L> 60
M T S Q Q K T Q K D S S A A W P P R G T> 59

190 200 210 220 230 240
* * * * *
GACCGTGGGC GAGGAGTGGT CCCAGGACCT GCACAGCAGC GGCCGCACGG ACCTCAAGTA
D G G R G V V P G P A Q Q R P H G P Q V> 80
T V G E E W S Q D L H S S G R T D L K Y> 80
* R W A R S G P R T C T A A A A R T S S> 79

250 260 270 280 290 300
* * * * *
CTCCTACCCG TTCGTGTGTG ACGAACACTA CTACGAGAG GGCTGCTCCG TTTTCTGCCG
L L P L R V * R T L L R R G L L R F L P> 100
S Y R F V C D E H Y Y G E G C S V F C R> 100
T P T A S C V T N T T T E R A A P F S A> 99

310 320 330 340 350 360
* * * * *
TCCCCGGGAC GATGCCTTCG GCCACTTCAC CTGTGGGGAG CGTGGGGAGA AAGTGTGCAA
S P G R C L R P L H L W G A W G E S V Q> 120
P R D D A F G H F T C G E R G E K V C N> 120
V P G T M P S A T S P V C S V G R K C A> 119

FIG.12B1



370 380 390 400 410 420
* * * * *
CCCTGGCTGG AAAGGGCCCT ACTGCACAGA GCCGATCTGC CTGCCTGGAT GTGATGAGCA
P W L E R A L L H R A D L P A W M * * A> 140
P G W K G P Y C T E P I C L P G C D E Q> 140
T L A G K G P T A Q S R S A C L D V M S> 139

430 440 450 460 470 480
* * * * *
GCATGGATT TGTGACAAAC CAGCCCAATG CAAGTGCAGA GTGGGCTGGC AGGCGCCGTA
A W I L * Q T R G M Q V Q S G L A G P V> 160
H G F C D K P G E C K C R V G W Q G R Y> 160
S M D F V T N Q G N A S A E W A G R A G> 159

490 500 510 520 530 540
* * * * *
CTGTGACGAG TGTATCCGCT ATCCAGGCTG TCTCCATGGC ACCTGCCAGC AGCCCTGGCA
L * R V Y P L S R L S P W H L P A A L A> 180
C D E C I R Y P G C L H G T C Q Q P W Q> 180
T V T S V S A I Q A V S M A P A S S P G> 179

550 560 570 580 590 600
* * * * *
GTGCAACTGC CAGGAAGGNT GGGGGGGCCT TTTCTGCAAC CAGGACCTGA ACTACTGCAC
V Q L P G R X G G P F L Q P G P E L L H> 200
C N C Q E G W G G L F C N Q D L N Y C T> 200
S A T A R K X G G A F S A T R T * T T A> 199

610 620 630 640 650 660
* * * * *
ACACCATAAG CCCTGCAAGA ATCGAGCCAC CTGCAACAAA CACGGGCCAG GGGGAGCTAC
T P * A L Q E W S H L Q Q T R A R G S Y> 220
H H K P C K N G A T C N K H G P G G A T> 220
H T I S P A R M E P P A T N T G Q G E L> 219

670 680 690 700 710 720
* * * * *
ACTTGGTCTT TGGCCGGNCT GGGGTACANA GGGTGCCACC TGCGAAGCTT GGGGATTGGA
T W S L A G L G Y X G C H L R S L G I G> 240
L G L W P X W G T X G A T C E A W G L D> 240
H L V F G R X C V X R V P P A K L G D W> 239

FIG.12B2



730 740 750 760 770 780
* * * * *
CGAGTTGTTG ACCCCAGCCC TTGTAAGAA CCGAGGGAGC TTGACGGATC TTCGAGAAC
R V V D P S P W * E R R E L D G S S E N> 260
E L L T P A L G K N G G S L T D L R R T> 260
T S C * P Q P L V R T E Q A * R I F G E> 259

790 800 810 820 830 840
* * * * *
AGCTACTCCT GTACCTGCCC ACCCGCTTC TACGGCAAAA TCTGTGAATT GAGTGCCATG
S Y S C T C P P G F Y G K I C E L S A M> 280
A T P V P A H P A S T A K S V N * V P *> 280
Q L L L Y L P T R L L R Q N L * I E C H> 279

850 860 870 880 890 900
* * * * *
ACCTGTGCGG ACGGCCCTTG CTTTAACGGG GGTCGGTGCT CAGACAGCCC CGATGGAGGG
T C A D G P C F N G G R C S D S P D G G> 300
P V R T A L A L T G V G A Q T A P M E G> 300
D L C G R P L L * R G S V L R Q P R W R> 299

910 920 930 940 950 960
* * * * *
TACAGCTGCC GCTGCCCGT GGGCTACTCC GGCTTCAACT GTGAGAAGAA AATTGACTAC
Y S C R C P V G Y S G F N C E K K I D Y> 320
T A A A A P W A T P A S T V R R K L T T> 320
V Q L P L P R G L L R L Q L * E E N * L> 319

970 980 990 1000 1010 1020
* * * * *
TGCAGCTCTT CACCCTGTTT TAATGGTGCC AAGTGTGTGG ACCTCGGTGA TGCCTACCTG
C S S S P C S N G A K C V D L G D A Y L> 340
A A L H P V L M V P S V W T S V M P T C> 340
L Q L F T L F * W C Q V C G P R * C L P> 339

1030 1040 1050 1060 1070 1080
* * * * *
TGCCGCTGCC AGGCCGGCTT CTCGGGGAGG CACTGTGACG ACAACGTGGA CGACTGCGCC
C R C Q A G F S G R H C D D N V D D C A> 360
A A A R P A S R G G T V T T T W T T A P> 360
V P L P G R L L G E A L * R Q R G R L R> 359

FIG.12B3



1090 1100 1110 1120 1130 1140
* * * * *
TCCTCCCCGT GCGCCAACGG GGGCACCTGC CGGGATGCCG TGAACGACTT CTCCTGCACC
S S P C A N G G T C R D G V N D F S C T> 380
P P R A P T G A P A G M A * T T S P A P> 380
L L P V R Q R G H L P G W R E R L L L H> 379

1150 1160 1170 1180 1190 1200
* * * * *
TGCCCGCCTG GCTACACGGG CAGGAACCTGC AGTGCCCCCG CCAGCAGGTG CGAGCACGCA
C P P G Y T G R N C S A P A S R C E H A> 400
A R L A T R A G T A V P P P A G A S T H> 400
L P A W L H G Q E L Q C P R Q Q V R A R> 399

1210 1220 1230 1240 1250 1260
* * * * *
CCCTGCCACA ATGGGGCCAC CTGCCACGAG AGGGGCCACC GCTATNTGTG CGAGTGTGCC
P C H N G A T C H E R G H R Y X C E C A> 420
P A T M G P P A T R G A T A I C A S V P> 420
T L P Q W G H L P R E G P P L F V R V C> 419

1270 1280 1290 1300 1310 1320
* * * * *
CGAAGCTACG GGGGTCCCAA CTGCCANTTC CTGCTCCCCG AAAGTCCCC CCCGGCCCCA
R S Y G G P N C X F L L P E T A P P A P> 440
E A T G V P T A X S C S P K L P P R P H> 440
P K L R G S Q L P X P A P R N C P P G P> 439

1330 1340 1350 1360 1370 1380
* * * * *
CGGTGGTGGA AACTCCCCTA AAAAAACCTA AAAGGGCCGG GGGGGGCCCA TCCCCTTGGT
R W W K L P * K N L K G P G G A H P L G> 460
G G G N S P K K T * K G R G G P I P L V> 460
T V V E T P L K K P K R A G G G P S P W> 459

1390 1400 1410 1420 1430 1440
* * * * *
GGACGTGTGC GCCGGGTCA TCCTTGTCT CATGCTGCTG CTGGGCTGTC CCGCTGTGGT
G R V R R G H P C P H A A A G L C R C G> 480
D V C A G V I L V L M L L L G C A A V V> 480
W T C A P G S S L S S C C C W A V P L W> 479

FIG.12B4



1450 1460 1470 1480 1490 1500
* * * * *
GGTCTGCGTC CGGCTGAGGC TGCAGAAGCA CCGGCCCCCA GCCGACCCCT GNCGGGGGA
G L R P A E A A E A P A P S R P L X G C> 500
V C V R L R L Q K H R P P A D P X R G E> 500
W S A S G * G C R S T G P Q P T P X G G> 499

1510 1520 1530 1540 1550 1560
* * * * *
GACCGAGACC ATGAACAACC TGGNCAACTG CCAGCGTGAG AAGGACATCT CAGTCAGCAT
D C D H E Q P G Q L P A * E G H L S Q H> 520
T E T M N N L X N C Q R E K D I S V S I> 520
R R R P * T T W X T A S V R R T S Q S A> 519

1570 1580 1590 1600 1610 1620
* * * * *
CATCGGGGNC ACGCAGATCA AGAACACCAA CAAGAAGGCG GACTTCCACG GGGACCACAG
H R G H A D Q E H Q Q E G G L P R G P Q> 540
I G X T Q I K N T N K K A D F H G D H X> 540
S S G X R R S R T P T R R R T S T G T T> 539

1630 1640 1650 1660 1670 1680
* * * * *
NGCCGACAAG AATGGCTTCA AGGCCCGCTA CCCAGNGGTG GACTATAACC TCGTGCAGGA
X R Q E W L Q G P L P X G G L * P R A G> 560
A D K N G F K A R Y P X V D Y N L V Q D> 560
X P T R M A S R P A T Q X W T I T S C R> 559

1690 1700 1710 1720 1730 1740
* * * * *
CCTCAAGGCT GACGACACCG CCGTCAGGGA CGGCCACAGC AAGCGTGACA CCAAGTGNCA
P Q G * R H R R Q G R A Q Q A * H Q V X> 580
L K G D D T A V R D A H S K R D T K X Q> 580
T S R V T T P P S G T R T A S V T P S X> 579

1750 1760 1770 1780 1790 1800
* * * * *
GCCCCAGGGC TCCTCAGGGG AGGAGAAGGG GACCCCGGAC CCACACTCAG GGGGTGGAGG
A P G L L R G G E G D P R P T L R G W R> 600
P Q G S S G E E K G T P D P H S G G G G> 600
S P R A P Q G R R R G P P T H T Q G V E> 599

FIG.12B5



1810 1820 1830 1840 1850 1860
* * * * *
AAGCATCTTG AAAGAAAAG GCCGGACTTC GGGCTTGTC AACTTTCAAA AGACAANCAA
K H L E R K R P D F G L V Q L S K D X Q> 620
S I L K E K G R T S G L F N F Q K T X X> 620
E A S * K K K A G L R A C S T F K R Q X> 619

1870 1880 1890 1900 1910 1920
* * * * *
NGTACAAGTC GGTGTNCGTC ATTCCGNAG GAGGAAGGNT GACTGCGTCA TAGGAANTTG
X T S R C X S F P X E E G * L R H R X L> 640
V Q V G V R H F R R R K X D C V I G X> 640
X Y K S V X V I S X G G R X T A S * E X> 639

1930 1940 1950 1960 1970 1980
* * * * *
ACGTNGTAAA NTGGNAGTTG ANNTTGAAA GNNNTCCCC GATTCCCNIT TCAAAGTTTT
R X * X G S * X W K X X P G F R F Q S F> 660
G X K X X V X X G K X S P D S X F K V F> 660
E V V X W X L X L E X X P R I P X S K F> 659

FIG.12B6



| | | |
|-----------------|--|-----|
| MOUSE DELTA DNA | GTCCAGCGGT ACCATGGGCC GTCGGAGCGC GCTAGCCCTT GCCGTGGTCT | 50 |
| HUMAN DELTA | ----- | |
| CONSENSUS | GTCCAGCGGT ACCATGGGCC GTCGGAGCGC GCTAGCCCTT GCCGTGGTCT | 50 |
| MOUSE DELTA DNA | CTGCCCTGCT GTGCCAGGTC TGGAGCTCCG GCGTATTGA GCTGAAGCTG | 100 |
| HUMAN DELTA | ----- | |
| CONSENSUS | CTGCCCTGCT GTGCCAGGTC TGGAGCTCCG GCGTATTGA GCTGAAGCTG | 100 |
| MOUSE DELTA DNA | CAGGAGTTCG TCAACAAGAA GGGGCTGCTG GGAACCGCA ACTGCTGCCG | 150 |
| HUMAN DELTA | ----- | |
| CONSENSUS | CAGGAGTTCG TCAACAAGAA GGGGCTGCTG GGAACCGCA ACTGCTGCCG | 150 |
| MOUSE DELTA DNA | CGGGGGCTCT GGCCCGCCTT GCGCCTGCAG GACCTTCTTT CCGTATGCC | 200 |
| HUMAN DELTA | ----- | |
| CONSENSUS | CGGGGGCTCT GGCCCGCCTT GCGCCTGCAG GACCTTCTTT CCGTATGCC | 200 |
| MOUSE DELTA DNA | TCAAGCACTA CCAGGCCAGC GTGTCACCGG AGCCACCCTG CACCTACGGC | 250 |
| HUMAN DELTA | ----- | |
| CONSENSUS | TCAAGCACTA CCAGGCCAGC GTGTCACCGG AGCCACCCTG CACCTACGGC | 250 |
| MOUSE DELTA DNA | AGTGCTGTCA CGCCAGTGCT GGGTGTGAC TCCTTCAGCC TGCCTGATCG | 300 |
| HUMAN DELTA | -----CATTC | 5 |
| CONSENSUS | AGTGCTGTCA CGCCAGTGCT GGGTGTGAC TCCTTCAGCC TGCCTSATCG | 300 |
| MOUSE DELTA DNA | CCGAGGCATC GACCCG---G CTTTCAGCAA CCCCA--TCC GATTC--CCC | 343 |
| HUMAN DELTA | GGTACGGGCC CCCCTCGAGG TCGACGGTAT CGATAAGCTT GATATCGAAT | 55 |
| CONSENSUS | SGYASGSRYC SMCCTCGAGG YCKWCRGYAW DSMYAGYYY GATATCGMMY | 350 |
| MOUSE DELTA DNA | TTCGGCTTCA CCTGGCCAGG TACCTTCTCT CTGATCATTG AAGCCCTCCA | 393 |
| HUMAN DELTA | TCCGGCTTCA CCTGGCCGGG CACCTTCTCT CTGATTATTG AAGCTCTCCA | 105 |
| CONSENSUS | TYCGGCTTCA CCTGGCCGGG YACCTTCTCT CTGATYATTG AAGCTCTCCA | 400 |
| MOUSE DELTA DNA | TACAGACTCT CCGATGACC TCGCAACAGA AAACCCAGAA AGACTCATCA | 443 |
| HUMAN DELTA | CACAGATTCT CCGATGACC TCGCAACAGA AAACCCAGAA AGACTCATCA | 155 |
| CONSENSUS | YACAGATTCT CCGATGACC TCGCAACAGA AAACCCAGAA AGACTCATCA | 450 |

FIG.13A



| | | |
|-----------------|---|-----|
| MOUSE DELTA DNA | GCCGCCTGAC CACACAGAGG CACCTCACTG TGGGAGAAGA ATGGTCTCAG | 493 |
| HUMAN DELTA | GCCGCCTGGC CACCCAGAGG CACCTGACGG TGGGCCAGGA GTGGTCCAG | 205 |
| CONSENSUS | GCCGCCTGRC CACMCAGAGG CACCTSACKG TGGGMARGA RTGGTOYCAG | 500 |
| MOUSE DELTA DNA | GACCTTCACA GTAGCGGCCG CACAGACCTC CGGTACTCTT ACCGCTTTGT | 543 |
| HUMAN DELTA | GACCTGCACA GCAGCGGCCG CACGGACCTC AAGTACTCCT ACCGCTTCGT | 255 |
| CONSENSUS | GACCTTCACA GTAGCGGCCG CACRGACCTC MFGTACTCYT ACCGCTTYGT | 550 |
| MOUSE DELTA DNA | GTGTGACGAG CACTACTACG GAGAAGGTTG CTCGTCTTC TCCCGACCTC | 593 |
| HUMAN DELTA | GTGTGACGAA CACTACTACG GAGAGGGCTG CTCCTTTTC TCCCGTCCCG | 305 |
| CONSENSUS | GTGTGACGAR CACTACTACG GAGARGGYTG CTCYGTCTTC TGCCGMCCYC | 600 |
| MOUSE DELTA DNA | GGGATGAGCG CTTTGGCCAC TTCACCTGCG GGGACAGAGG GGAGAAGATG | 643 |
| HUMAN DELTA | GGGACGATGC CTTGGCCAC TTCACCTGTG GGGAGCGTGG GGAGAAAGTG | 355 |
| CONSENSUS | GGGAYGAYGC CTTTGGCCAC TTCACCTGYG GGGASMGWGG GGAGAARRTG | 650 |
| MOUSE DELTA DNA | TGGACCCCTG GCTGGAAGG CCACTACTGC GCTGACCCAA TCTGTCTGCC | 693 |
| HUMAN DELTA | TGCAACCCTG GCTGGAAGG GCCCTACTGC ACAGAGCCGA TCTGCCTGCC | 405 |
| CONSENSUS | TGCRACCCTG GCTGGAAGG SOMSTACTGC ACAGASCCRA TCTGYCTGCC | 700 |
| MOUSE DELTA DNA | AGGGTGTGAT GAACCAATG GATACTGTGA CAAACCAGGG GAGTGCAAGT | 743 |
| HUMAN DELTA | TGGATGTGAT GAGCAGCATG GATTTTGTGA CAAACCAGGG GAATGCAAGT | 455 |
| CONSENSUS | WGGRTGTGAT GASCARCATG GATWYTGTA CAAACCAGGG GARTGCAAGT | 750 |
| MOUSE DELTA DNA | GCAGAGTTGG CTGGCAGGGC CGGTACTGGG ATGAGTGCAAT CCGATACCCA | 793 |
| HUMAN DELTA | GCAGAGTGGG CTGGCAGGGC CGITACTGTG ACGAGTGAT CCGCTATCCA | 505 |
| CONSENSUS | GCAGAGTKGG CTGGCAGGGC CGSTACTGYS AYGAGTGAT CCGMTANCCA | 800 |
| MOUSE DELTA DNA | GGTTGTCTCC ATGGCACCTG CCAGCAACCC TGGCAGTGA ACTGCCAGGA | 843 |
| HUMAN DELTA | GGCTGTCTCC ATGGCACCTG CCAGCAGCCC TGGCAGTGA ACTGCCAGGA | 555 |
| CONSENSUS | GGYTGCTCC ATGGCACCTG CCAGCARCCC TGGCAGTGA ACTGCCAGGA | 850 |
| MOUSE DELTA DNA | AGGCTGGGGG GGCCTTTTCT GCAACCAAGA CCTGAACCTAC TGTACTCACC | 893 |
| HUMAN DELTA | AGGNTGGGGG GGCCTTTTCT GCAACCAGGA CCTGAACCTAC TGCACACACC | 605 |
| CONSENSUS | AGGNTGGGGG GGCCTTTTCT GCAACCARGA CCTGAACCTAC TGYACWCACC | 900 |

FIG.13B



| | | | |
|-----------------|---|-----------------------|------|
| MOUSE DELTA DNA | ATAAGCCGTG CAGGAATGGA GCCACCTGCA | CCAACACGG GCCAGGGG | 941 |
| HUMAN DELTA | ATAAGCCGTG CAGGAATGGA GCCACCTGCA | ACAAACACGG GCCAGGGGGA | 655 |
| CONSENSUS | ATAAGCCGTG CAGGAATGGA GCCACCTGCA | ACAAACACGG GCCAGGGGGA | 950 |
| MOUSE DELTA DNA | GCTACACATG TTCCTGCC GACCTGGGT ATACA GGTG CCAACTGTG | | 986 |
| HUMAN DELTA | GCTACACTTG GTCTTTGGCC GGNCITGGGT ACANAGGGT CCACCTGGGA | | 705 |
| CONSENSUS | GCTACACATG KTCYTTGGCC GGNCYKGGT AMANAGGGT CCAMCTGYGA | | 1000 |
| MOUSE DELTA DNA | AGCT GGAA GTAGATGAG TG TGCTCCT AGCCCT GC AAGAACGGAG | | 1031 |
| HUMAN DELTA | AGCTTGGGGA TTGGACGAGT TGTTGACCC AGCCCTTGGT AAGAACGGAG | | 755 |
| CONSENSUS | AGCTTGGGGA KTRGAYGAGT TGTTGMYCQY AGCCCTTGGY AAGAACGGAG | | 1050 |
| MOUSE DELTA DNA | CGAGCTGCAC GGAOCTT G AGGACAGCTT CTCTTGACC TGCCCTCCCG | | 1079 |
| HUMAN DELTA | CGAGCTTGAC GAATCTTCGG AGAACAGCTA CTCCTGTACC TGCCCCACCG | | 805 |
| CONSENSUS | SGAGCTKSAC GGAYCTTCGG AGRACAGCTW CTCYTGAYACC TGCCCNCCCG | | 1100 |
| MOUSE DELTA DNA | GCTTCTATGG CAAGGTCTGT GAGGTGAGCG CCATGACCTG TGGAGATGGC | | 1129 |
| HUMAN DELTA | GCTTCAACGG CAAAATCTGT GAATTGAGTG CCATGACCTG TGGGACGGC | | 855 |
| CONSENSUS | GCTTCTAYGG CAARRTCTGT GARYTGAGYG CCATGACCTG TGGGAYGGC | | 1150 |
| MOUSE DELTA DNA | CCTTGCTTCA ATGGAGGACG ATGTTTCAGAT AACCTGACG GAGGCTACAC | | 1179 |
| HUMAN DELTA | CCTTGCTTTA ACGGGGTTCG GTGCTCAGAC AGCCCGATG GAGGSTACAG | | 905 |
| CONSENSUS | CCTTGCTTYA AYGGGGWCG RTGYTCAGAY ARCCGYGAY GAGGSTACAS | | 1200 |
| MOUSE DELTA DNA | CTGCCATGCG CCCTGGGGCT TCTCTGGCTT CAACTGTGAG AAGAAGATGG | | 1229 |
| HUMAN DELTA | CTGCCGCTGC CCCGTGGGCT ACTCCGGCTT CAACTGTGAG AAGAAATTTG | | 955 |
| CONSENSUS | CTGCCRYTGC CCCGTGGGCT MCTCYGGCTT CAACTGTGAG AAGAARATKG | | 1250 |
| MOUSE DELTA DNA | ATCTCTGGCG CTCTTCCCTT TGTCTAACG GTGCCAAGTG TGTGGACCTC | | 1279 |
| HUMAN DELTA | ACTACTGCAG CTCTTCACCC TGTCTAATG GTGCCAAGTG TGTGGACCTC | | 1005 |
| CONSENSUS | AYYWTGCRG CTCTTCMCCY TGTCTAAYG GTGCCAAGTG TGTGGACCTC | | 1300 |
| MOUSE DELTA DNA | GGCAACTCTT ACCTGTGCCG CTGCCAGGCT GGCTTCTCGG GGAGGTACTG | | 1329 |
| HUMAN DELTA | GGTGATGCCT ACCTGTGCCG CTGCCAGGCC GGCTTCTCGG GGAGGCACTG | | 1055 |
| CONSENSUS | GGYRAYKCYT ACCTGTGCCG CTGCCAGGCY GGCTTCTGSG GGAGGYACTG | | 1350 |
| MOUSE DELTA DNA | CGAGGACAAAT GTGGATGACT GTGCCTCCTC CCCGTGTGCA AATGGGGGCA | | 1379 |
| HUMAN DELTA | TGAGGACAAAC GTGGAGGACT GCGCCTCCTC CCCGTGCGCC AACGGGGGCA | | 1105 |
| CONSENSUS | YGAGGACAAAY GTGGAYGACY GTGCCTCCTC CCCGTGYGCM AAYGGGGGCA | | 1400 |

FIG.13C



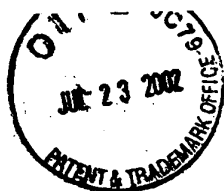
| | | | | | | |
|-----------------|-------------|------------|--------------|------------|-------------|------|
| MOUSE DELTA DNA | CCTGCCGGGA | CAGTGTGAAC | GACTTCTCCT | GTACCTGCCC | ACCTGGCTAC | 1429 |
| HUMAN DELTA | CCTGCCGGGA | TGGCGTGAAC | GACTTCTCCT | GCACCTGCCC | GCCTGGCTAC | 1155 |
| CONSENSUS | CCTGCCGGGA | YRGYGTGAAC | GACTTGTCTCCT | GYACCTGCCC | RCCYGGCTAC | 1450 |
| MOUSE DELTA DNA | ACGGGCAAGA | ACTGCAGGCG | CCCTGTGAGC | AGGTGTGAGC | ATGCACCCTG | 1479 |
| HUMAN DELTA | ACGGGCAGGA | ACTGCAGTGC | CCCGGCCAGC | AGGTCCGAGC | ACGCACCCTG | 1205 |
| CONSENSUS | ACGGGCARGA | ACTGCAGYGC | CCCYGTGAGC | AGGTGTGAGC | AYGCACCCTG | 1500 |
| MOUSE DELTA DNA | CCATAATGGG | GCCACCTGCC | ACCAGAGGGG | CCAGCGCTAC | ATGTGTGAGT | 1529 |
| HUMAN DELTA | CCACAATGGG | GCCACCTGCC | ACCAGAGGGG | CCACCGCTAT | TGTGTGAGT | 1255 |
| CONSENSUS | CCATAATGGG | GCCACCTGCC | ACSAGAGGGG | CCASCGCTAY | WTGTGTGAGT | 1550 |
| MOUSE DELTA DNA | GCGCCCAAGG | CTATGGGCGG | CCCAACTGCC | AGTTTCTGCT | CCCTGAGCC | 1578 |
| HUMAN DELTA | GTGCCCCAAG | CTACGGGGGT | CCCAACTGCC | ANTTCTGCT | CCCGAAGCT | 1305 |
| CONSENSUS | GYGCCCCRRRG | CTAYGGSGY | CCCAACTGCC | ANTTYCTGCT | CCCYGAARCY | 1600 |
| MOUSE DELTA DNA | -ACCACCAGG | GCCCATGGTG | GTGG-ACCTC | AGTGACAGGC | ATAT-GGAGA | 1625 |
| HUMAN DELTA | GCCCCCCCCG | CCCCACGGTG | GTGGAAACTC | CCCTAAAAAA | ACCTAAAAGC | 1355 |
| CONSENSUS | GMCCMCCMG | SCCCAVGGTG | GTGGAAMCTC | MSYKARARRM | AYMTARRAGR | 1650 |
| MOUSE DELTA DNA | GCCAGGGCGG | GCCCTTCCCC | TGGGTGGGCG | TGTGTGCCGG | GGTGGTCTT | 1675 |
| HUMAN DELTA | GCCGGGGGGG | GCCCATCCCC | TTGGTGGAGC | TGTGGCCCGG | GGTCATCTT | 1405 |
| CONSENSUS | GCCRGGGSGG | GCCCTTCCCC | TGGGTGMC | TGTGTGCCGG | GGTSRTCTT | 1700 |
| MOUSE DELTA DNA | GTCCTCTGCG | TGCTGCTGGG | CTGTGCTGCT | GTGGTGGTCT | GCGTCCGGCT | 1725 |
| HUMAN DELTA | GTCCTCATGC | TGCTGCTGGG | CTGTGCGGCT | GTGGTGGTCT | GCGTCCGGCT | 1455 |
| CONSENSUS | GTCCTCMTGC | TGCTGCTGGG | CTGTGCTGCT | GTGGTGGTCT | GCGTCCGGCT | 1750 |
| MOUSE DELTA DNA | GAAGCTACAG | AACACCAAGC | CTCCATCTGA | ACCCTGTGGG | GGAGAGACAG | 1775 |
| HUMAN DELTA | GAGGCTGCAG | AAGCACCGGC | CCCCATCGA | CCCCTGNCGG | GGGAGAACGG | 1505 |
| CONSENSUS | GARGCTRCAG | AARCACCGGC | CYCCASCTGA | MCCCTGNSGG | GGGAGAACRG | 1800 |
| MOUSE DELTA DNA | AAACCATGAA | CAACCTAGCC | AATTGCCAGC | GCGAGAAGGA | CGTTTCTGTT | 1825 |
| HUMAN DELTA | AGACCATGAA | CAACCTGGNC | AACTGCCAGC | GTGAGAAGGA | CATCTCAGTC | 1555 |
| CONSENSUS | ARACCATGAA | CAACCTGNC | AAYTGCCAGC | GYGAGAAGGA | CRITYTCAGTY | 1850 |

FIG.13D



| | | |
|-----------------|---|------|
| MOUSE DELTA DNA | AGCATCATTTG GGGCTACCA GATCAAGAAC ACCAACAAGA AGGCGGACTT | 1875 |
| HUMAN DELTA | AGCATCATCG GGGNCACCA GATCAAGAAC ACCAACAAGA AGGCGGACTT | 1605 |
| CONSENSUS | AGCATCATYTG GGGNYACCA GATCAAGAAC ACCAACAAGA AGGCGGACTT | 1900 |
| MOUSE DELTA DNA | TCACGGGGAC CATGGAGCCA ACAAGAGCAG CTTTAAAGGTC CGATACCOCA | 1925 |
| HUMAN DELTA | CCACGGGGAC CACAGNGCCG ACAAGAATGG CTTCAAGGCC CGCTACCOAG | 1655 |
| CONSENSUS | YCACGGGGAC CAYRGNCCR ASAAGARYRG CTTYAAGGYC CGMTACCOMR | 1950 |
| MOUSE DELTA DNA | CTGTGGACTA TAACCTCGTT CGAGACCTCA AGGGAGATGA ACCCAGCGTC | 1975 |
| HUMAN DELTA | NGGTGGACTA TAACCTCGTG CAGGACCTCA AGGGTGAAGA CACCCGCGTC | 1705 |
| CONSENSUS | NKGTGGACTA TAACCTCGTK CRRGACCTCA AGGGAGATGA MRCRCGSGTC | 2000 |
| MOUSE DELTA DNA | AGGGATACAC ACAGCAACG TGACACCAAG TGCCAGTCAC AGAGCTCTGC | 2025 |
| HUMAN DELTA | AGGGACGGGC ACAGCAACG TGACACCAAG TGNCAGCCCC AGGGCTCCTC | 1755 |
| CONSENSUS | AGGGAYRCRC ACAGCAAFCG TGACACCAAG TGNCAGYCMC AGFGCTCYKC | 2050 |
| MOUSE DELTA DNA | AGGAGAAGAG AA—GATCG CC—CCAACA CTTA—GGGGT GG—GG—AGAT | 2067 |
| HUMAN DELTA | AGGGGAGGAG AAGGGGACCC CCGACCCACA CTCAGGGGGT GGAGGAAGCA | 1805 |
| CONSENSUS | AGRGARGAG AAGGGGAYCS CCGACCMACA CTYAGGGGGT GGAGGAAGMW | 2100 |
| MOUSE DELTA DNA | TCCTGACAGA AAAAGGCCAG AGTCT—GTC TACTGTAC—T TCAAAGGAC— | 2113 |
| HUMAN DELTA | TCTTGAAAGA AAAAGGCCGG ACTTCGGGCT TGTTCAACTT TCAAAGACA | 1855 |
| CONSENSUS | TCYTGAMAGA AAAAGGCCRG ASTYYGGYY TRYTGWACTT TCAAAGACA | 2150 |
| MOUSE DELTA DNA | —ACCAAGTAC CAGTCGGTGT ATGTTCTGTC TGCAGAA—A AGGATGAGTG | 2160 |
| HUMAN DELTA | ANCAANGTAC AAGTCGGTGT NGTTCATTTT CCGAGGAGGA AGGNTGACTG | 1905 |
| CONSENSUS | ANCMANGTAC MAGTCGGTGT NYGTMYTKTC YGNAGRAGGA AGGNTGASTG | 2200 |
| MOUSE DELTA DNA | TGTTATA—GC GACTGAGGT—GTAAGATGGA AGCGATGTGG CAAAAATCCC | 2208 |
| HUMAN DELTA | CGTCATAGGA ANTTGAGCTN GTAAANTGON AG—TT—TG—ANNTT— | 1945 |
| CONSENSUS | YGTATAGGM RNYTGAGCTN GTAARNTGON AGCGATGTGG CAANNTCCC | 2250 |
| MOUSE DELTA DNA | ATTTCTCTCA AATAAAATTC CAAGGATATA GCCCCGATGA ATGCTGCTGA | 2258 |
| HUMAN DELTA | —GGA AAGNN—TC CCCGAT—TCCGNT—TTT— | 1972 |
| CONSENSUS | ATTTCTCKSA AAKNNNATTC CAGGATATA GCYCCGNTGA ATGCTKCTGA | 2300 |

FIG.13E



| | | | | | | |
|-----------------|------------|------------|------------|------------|-------------|------|
| MOUSE DELTA DNA | GAGAGGAAGG | GAGAGGAAAC | CCAGGGACTG | CTGCTGAGAA | CCAGGTTTCAG | 2308 |
| HUMAN DELTA | ----- | AAA | ----- | G TTTT | ----- | 1981 |
| CONSENSUS | GAGAGGAAGG | GAGAGGAAAC | CCAGGGACTG | YTKYTCAGAA | CCAGGTTTCAG | 2350 |
| MOUSE DELTA DNA | GCGAAGCTGG | TTCTCTCAGA | GTTAGCAGAG | GCGCCCGACA | CTGCCAGCCT | 2358 |
| HUMAN DELTA | ----- | ----- | ----- | ----- | ----- | 1981 |
| CONSENSUS | GCGAAGCTGG | TTCTCTCAGA | GTTAGCAGAG | GCGCCCGACA | CTGCCAGCCT | 2400 |
| MOUSE DELTA DNA | AGGCTTTGGC | TGCCGCTGGA | CTGCCTGCTG | GTTGTTCCCA | TTGCACTATG | 2408 |
| HUMAN DELTA | ----- | ----- | ----- | ----- | ----- | 1981 |
| CONSENSUS | AGGCTTTGGC | TGCCGCTGGA | CTGCCTGCTG | GTTGTTCCCA | TTGCACTATG | 2450 |
| MOUSE DELTA DNA | GACAGTTGCT | TTGAAGAGTA | TATATTTAAA | TGGACGAGTG | ACTTGATTCA | 2458 |
| HUMAN DELTA | ----- | ----- | ----- | ----- | ----- | 1981 |
| CONSENSUS | GACAGTTGCT | TTGAAGAGTA | TATATTTAAA | TGGACGAGTG | ACTTGATTCA | 2500 |
| MOUSE DELTA DNA | TATAGGAAGC | ACGCACTGCC | CACACGTCTA | TCTTGGATTA | CTATGAGCCA | 2508 |
| HUMAN DELTA | ----- | ----- | ----- | ----- | ----- | 1981 |
| CONSENSUS | TATAGGAAGC | ACGCACTGCC | CACACGTCTA | TCTTGGATTA | CTATGAGCCA | 2550 |
| MOUSE DELTA DNA | GTCTTTCCTT | GAAGTAGAAA | CACAACTGCC | TTTATTGTCC | TTTTTGATAC | 2558 |
| HUMAN DELTA | ----- | ----- | ----- | ----- | ----- | 1981 |
| CONSENSUS | GTCTTTCCTT | GAAGTAGAAA | CACAACTGCC | TTTATTGTCC | TTTTTGATAC | 2600 |
| MOUSE DELTA DNA | TGAGATGTGT | TTTTTTTTTT | CCTAGACGGG | AAAAAGAAAA | CGTGTGTTAT | 2608 |
| HUMAN DELTA | ----- | ----- | ----- | ----- | ----- | 1981 |
| CONSENSUS | TGAGATGTGT | TTTTTTTTTT | CCTAGACGGG | AAAAAGAAAA | CGTGTGTTAT | 2650 |
| MOUSE DELTA DNA | TTTTTTGGGA | TTTGTAAGAA | TATTTTTCAT | GATATCTGTA | AAGCTTGAGT | 2658 |
| HUMAN DELTA | ----- | ----- | ----- | ----- | ----- | 1981 |
| CONSENSUS | TTTTTTGGGA | TTTGTAAGAA | TATTTTTCAT | GATATCTGTA | AAGCTTGAGT | 2700 |
| MOUSE DELTA DNA | ATTTTGTGAC | GTTCAATTTT | TTATAATTTA | AATTTTGGTA | AATATGTACA | 2708 |
| HUMAN DELTA | ----- | ----- | ----- | ----- | ----- | 1981 |
| CONSENSUS | ATTTTGTGAC | GTTCAATTTT | TTATAATTTA | AATTTTGGTA | AATATGTACA | 2750 |

FIG.13F



MOUSE DELTA DNA AAGGCACTTC GGGTCTATGT GACTATATTT TTTGTATAT AAATGTATTT 2758
HUMAN DELTA ----- 1981

CONSENSUS AAGGCACTTC GGGTCTATGT GACTATATTT TTTGTATAT AAATGTATTT 2800

MOUSE DELTA DNA ATCGAATATT GTGCAATGT TATTTGAGTT TTTTACTGTT TTGTTAATGA 2808
HUMAN DELTA ----- 1981

CONSENSUS ATCGAATATT GTGCAATGT TATTTGAGTT TTTTACTGTT TTGTTAATGA 2850

MOUSE DELTA DNA AGAAATTCAT TTAAAAATA TTTTCCAAA ATAAATATAA TGAAC TACA 2857
HUMAN DELTA ----- 1981

CONSENSUS AGAAATTCAT TTAAAAATA TTTTCCAAA ATAAATATAA TGAAC TACA 2899

FIG.13G



GFTWPGTFSLIIEALHTDSPD> 21
DLATENPERLISRLATQRHL> 41
TVGEEWSQDLHSSGRIDLKY> 61
SYRFVCDEHYYGEGCSVFCR> 81
PRDDAFGHETCGERGEKVCN> 101
PGWKGPYCTEPICLPGCDEQ> 121
HGFCDKPGECKCRVGVWQGRY> 141
CDECIRYPGCLHGTCOOPWQ> 161
CNCOEGWGGLFCNODLNYCT> 181
HHKPCKNGAIC*TNITGG* 198
SYT*PSP*KNNGSLTDL* 213
ENSYSCTCPPGFYGKICELSAM> 235
TCADGPCFNGGRCSDSPDGG> 255
YSCRCPPVGYSGFNCEKKIDY> 275
CSSSPCSNGAKCVDLGDAYL> 295
CRCQAGFSGRHCDDNVDDCA> 315
SSPCANGGTCRDGVNDFSCI> 335
CPPGYTGRNCSAPASRCEHA> 355
PCHNGATCHERGHRY*CECA> 374
RSYGGPNC*FLLPE*PPGP*> 391
VV*LLLGC AA VVVCVRLRLQKH> 412
RPPADP*RGETETMNNL*> 428

FIG. 14A



General No. 03/700,501
Inventor(s): ISH-HOROWICZ ET AL
Title: "ANTIBODIES TO VERTEBRATE DELTA
PROTEINS AND FRAGMENTS"

113733921.072302

| | |
|---|-----|
| <u>NCOREKDISVSIIG</u> * <u>TOIKNTN</u> > | 449 |
| <u>KKADFHGDH</u> * <u>ADKNGFKARYP</u> * | 469 |
| <u>VDYNLVODLKGD</u> <u>DTAVRDAHSKRDTK</u> * | 494 |
| <u>QPOGSSGEEKGTP</u> * <u>PTLR</u> * <u>GG</u> * | 514 |
| <u>I</u> * <u>RKRP</u> * <u>S</u> * <u>ST</u> * <u>SKD</u> * <u>T</u> * | 526 |
| <u>CVI</u> * <u>EV</u> * | 531 |

FIG. 14B